

Selenium re-suspension in the Water Column of the Great Salt Lake

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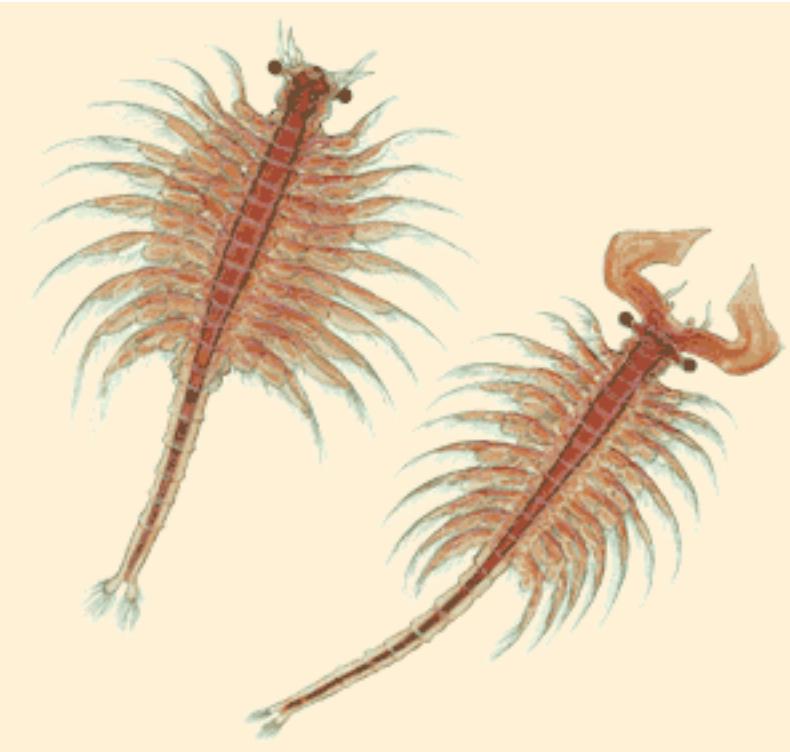
Overview

- Motivation and setting
- Temperature records
- Correlation of temperature with wind and lake elevation changes
- Re-suspension evidence
- Sediment traps
- Mixing mechanisms



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Selenium

Oxic

Se in water

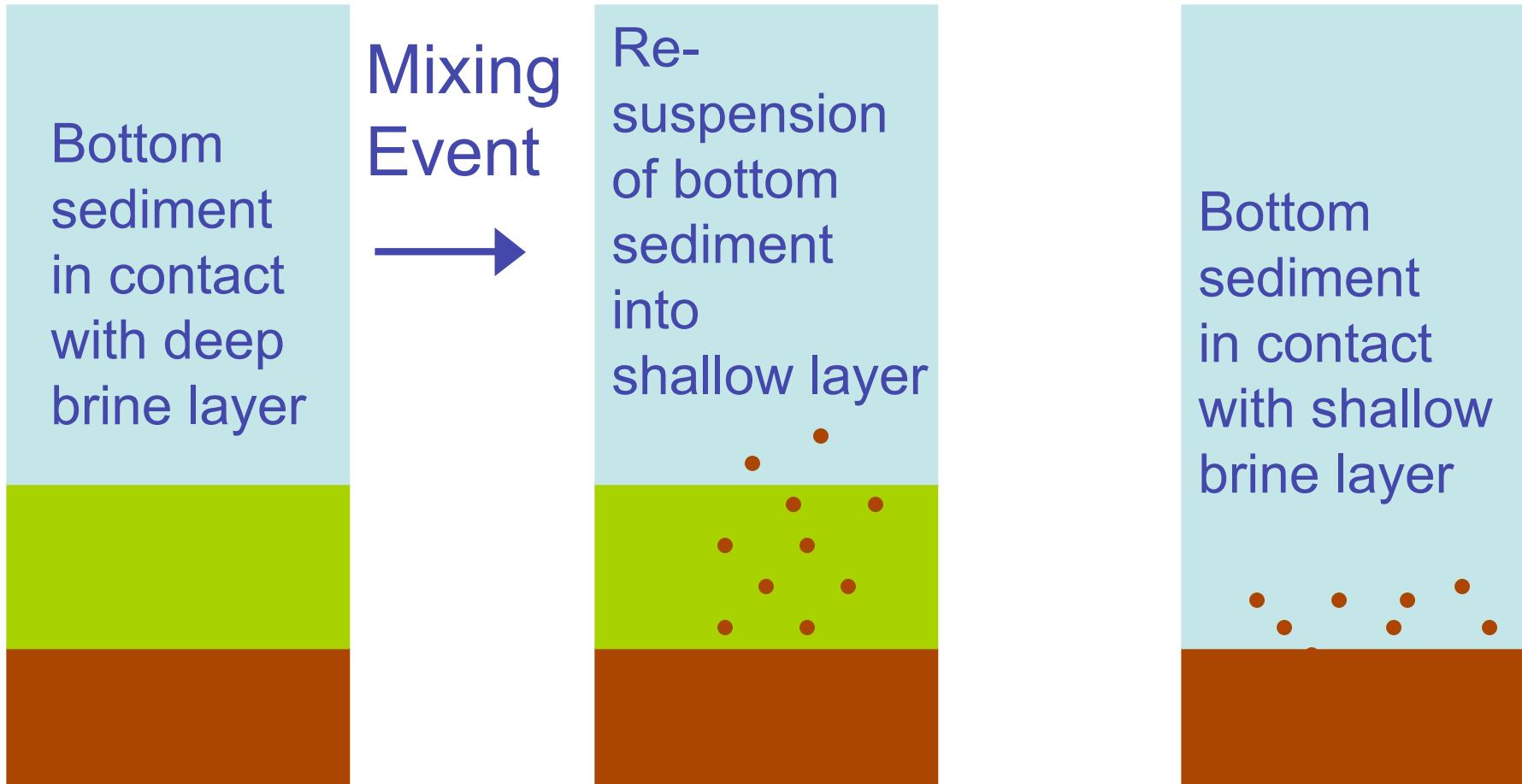


Anoxic

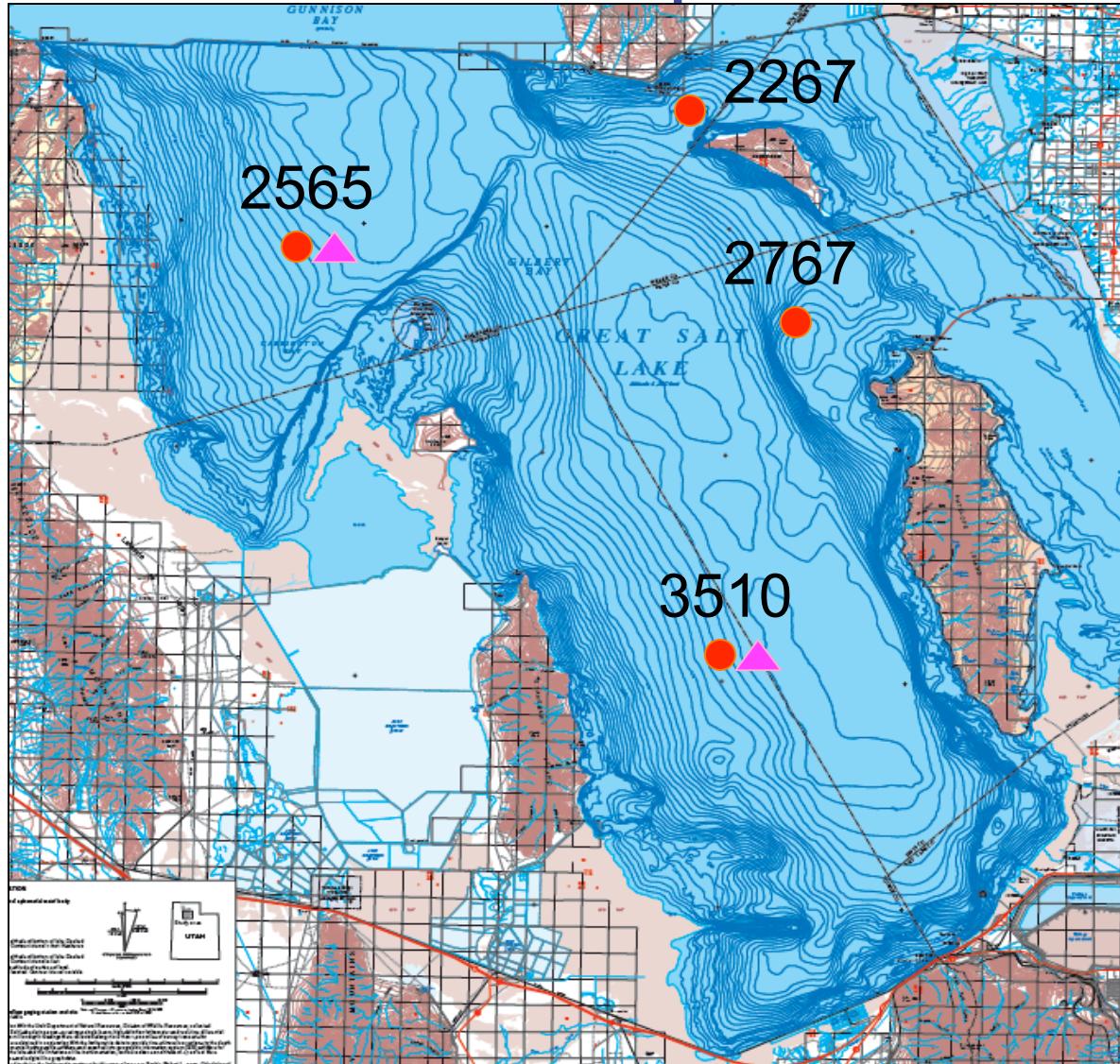
Se on sediment



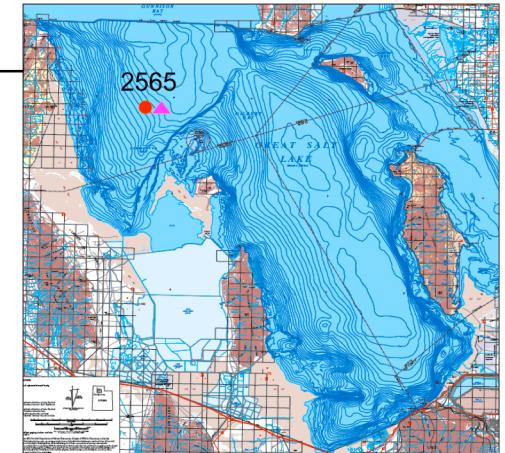
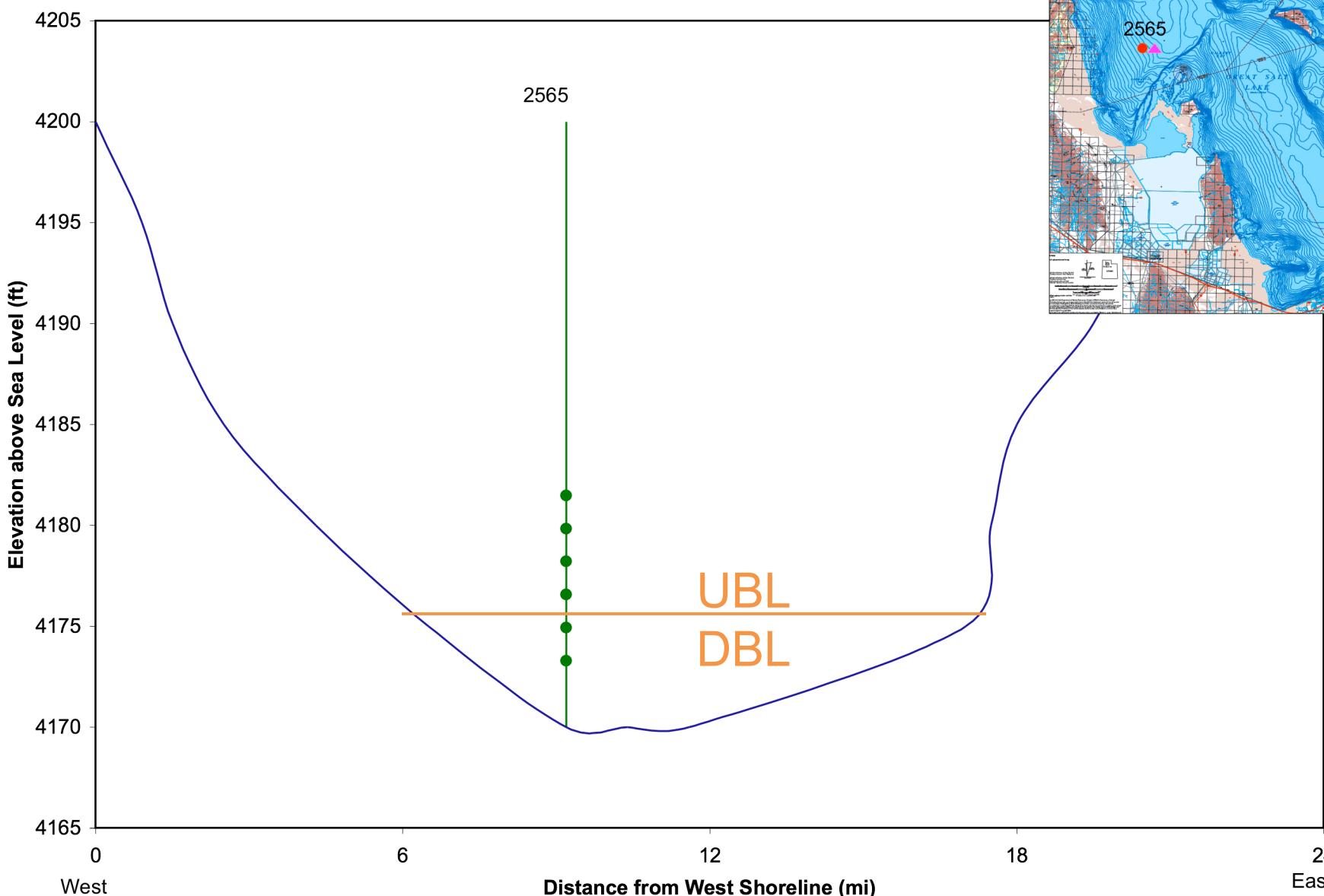
Selenium re-suspension

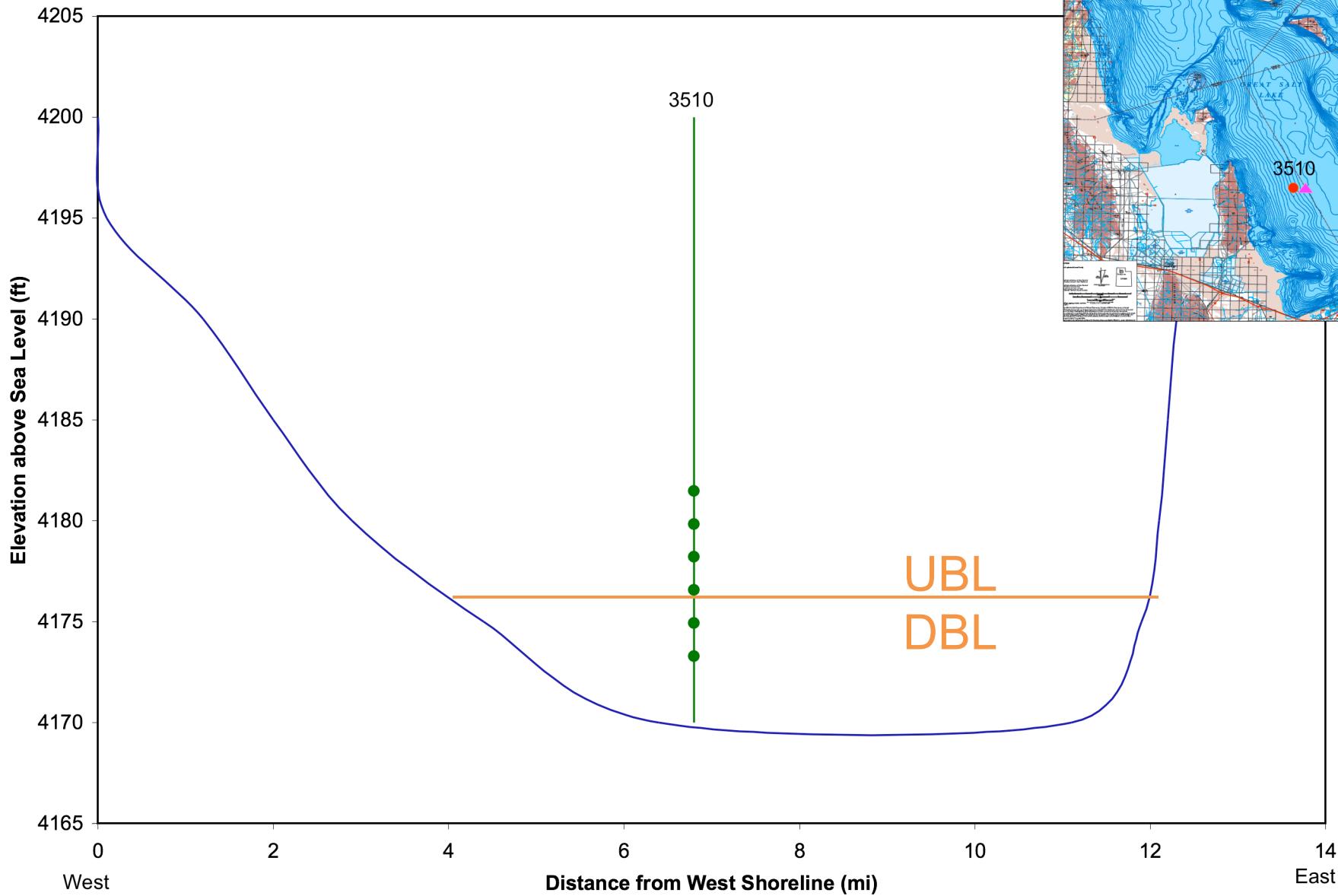


Sample Locations



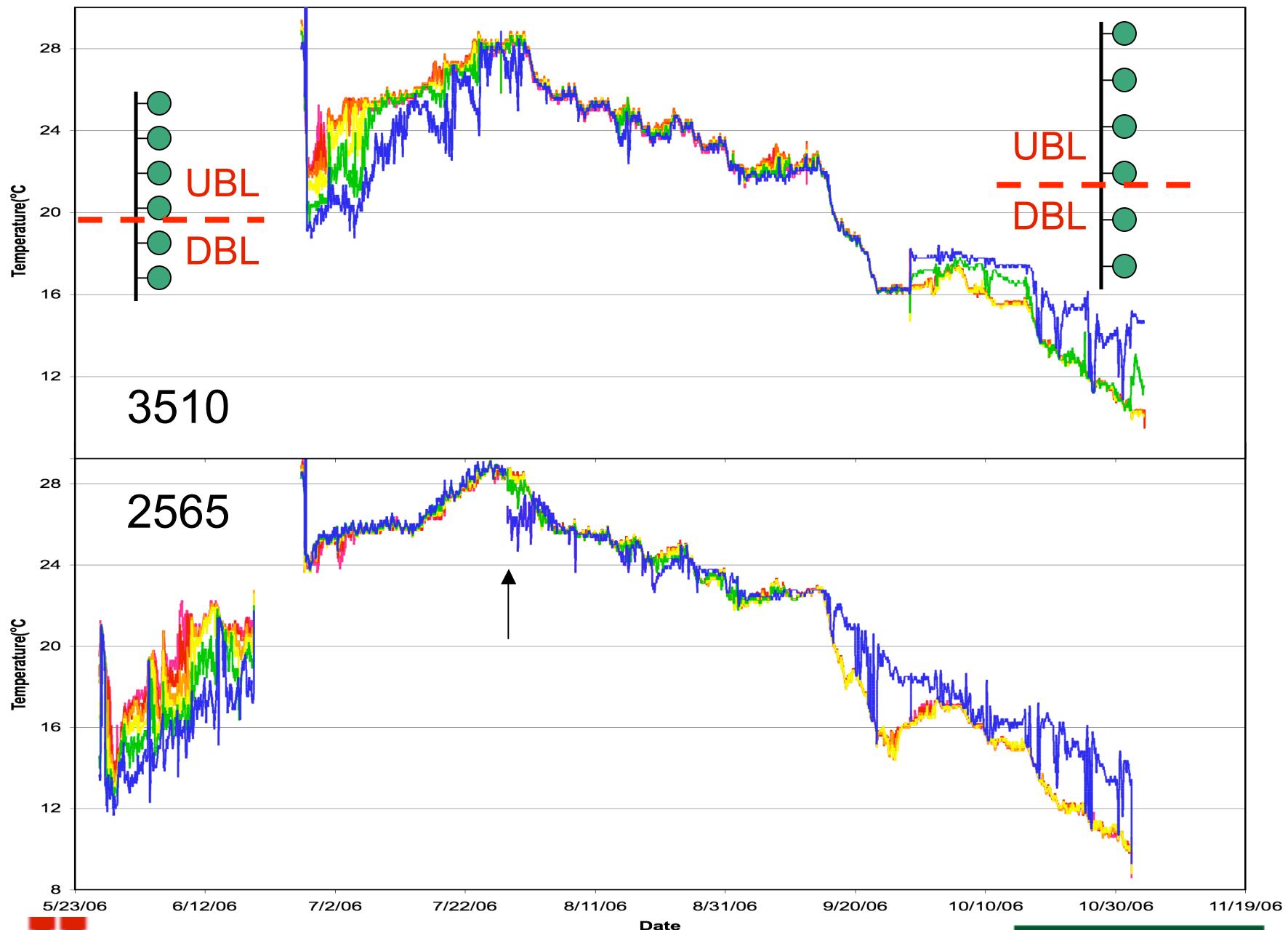
● Sediment Trap
▲ Thermistor String





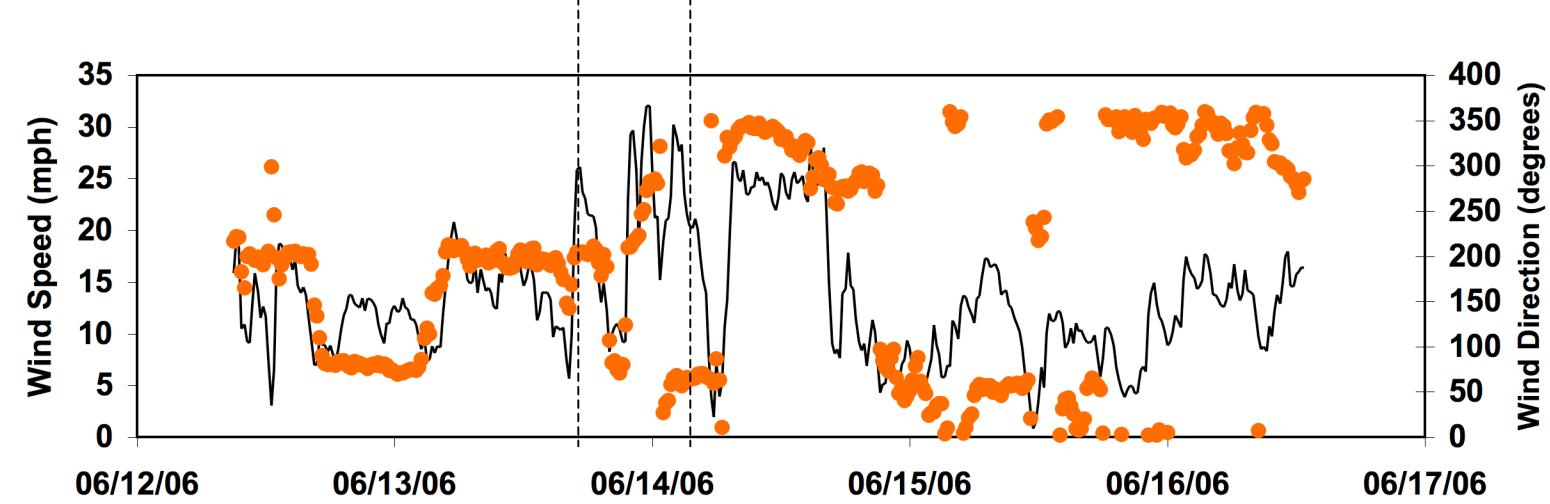
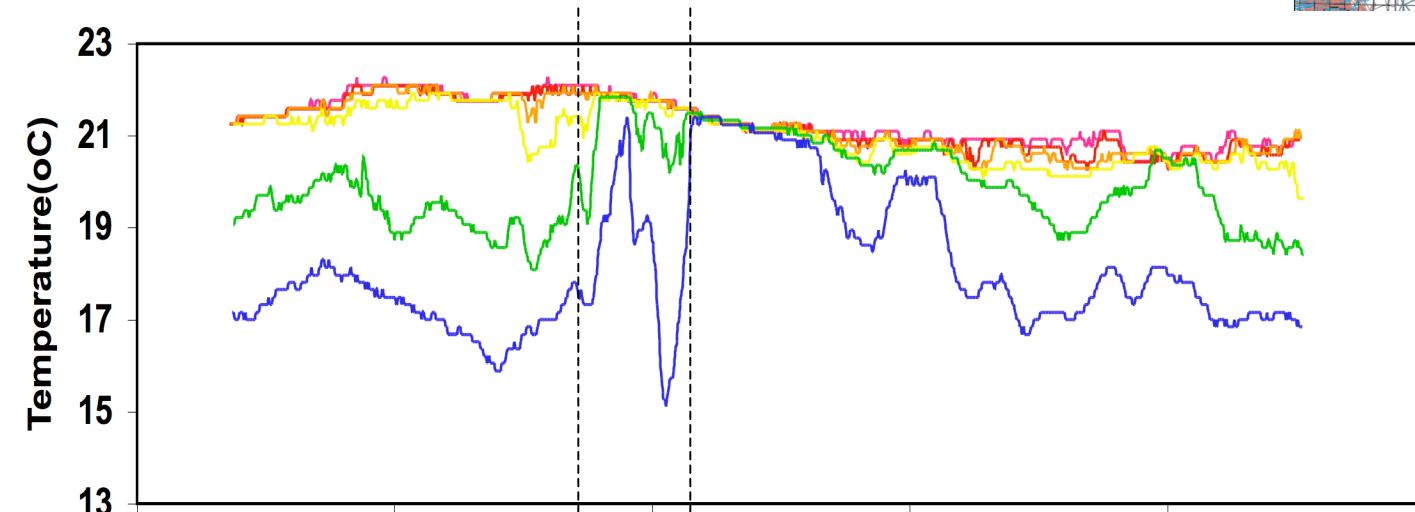
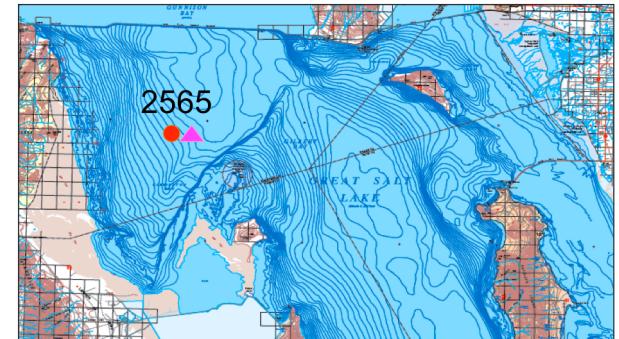
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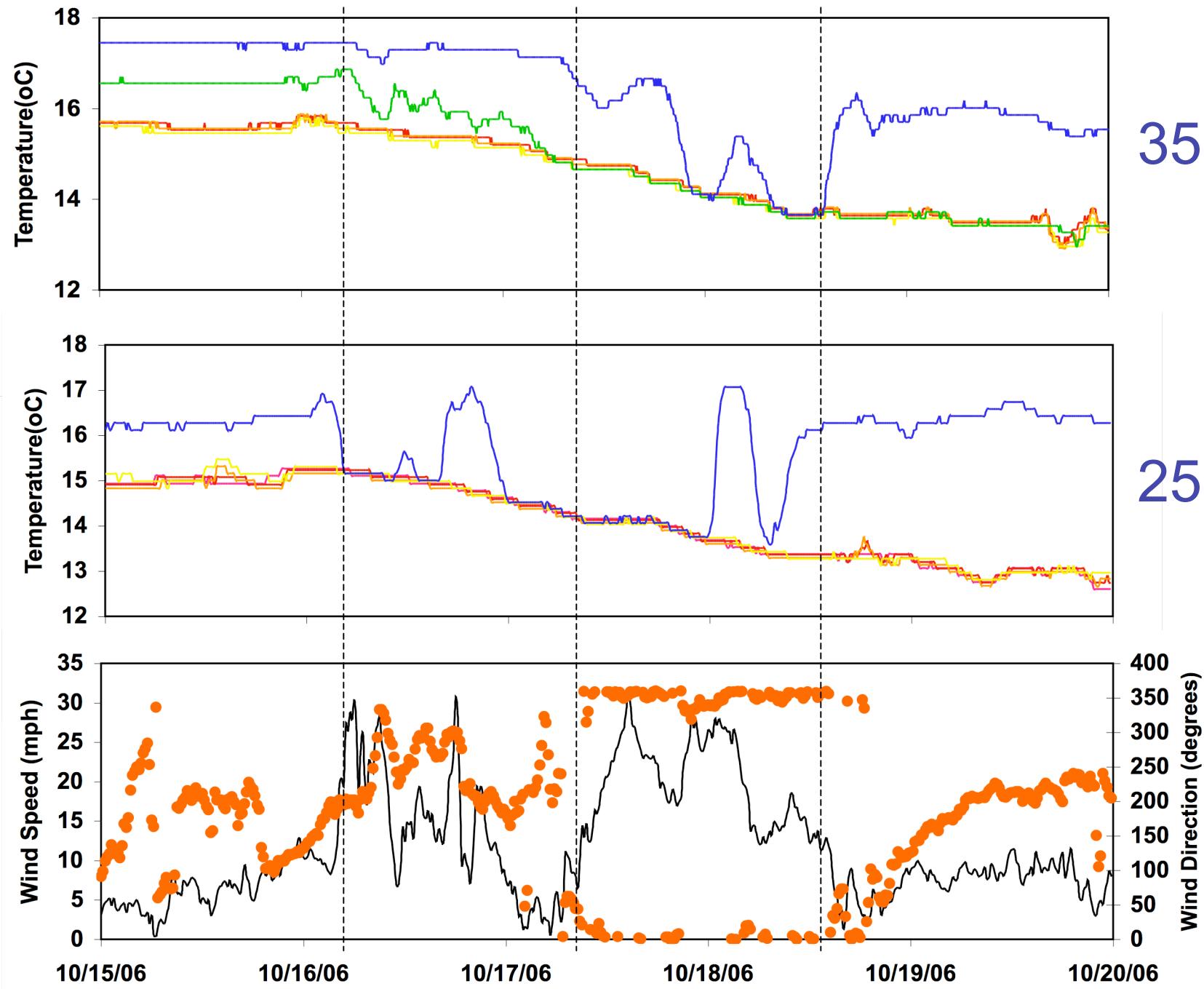




Site 2565

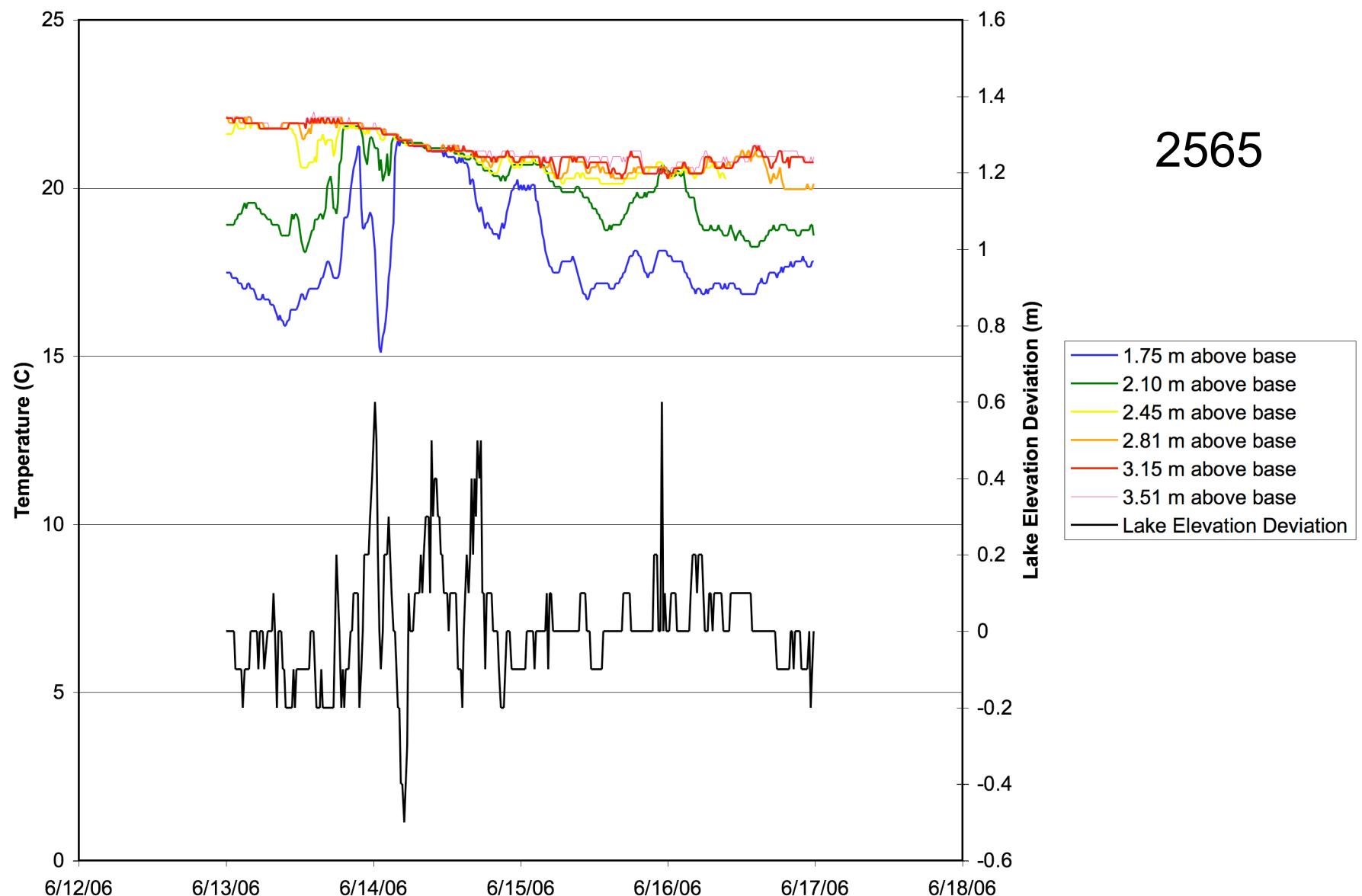
June





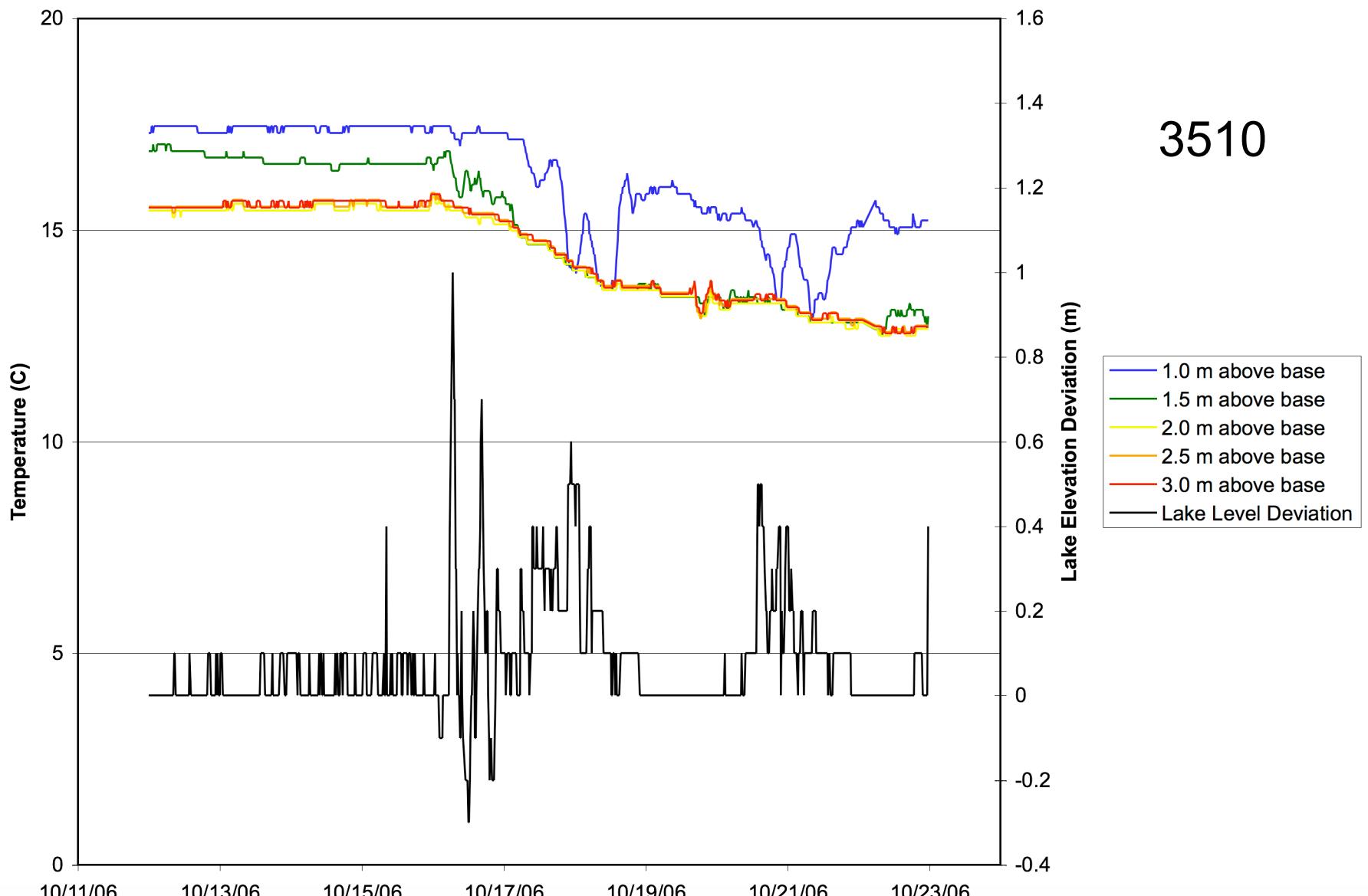
Mixing Mechanisms

- Wind Induced Surface Wave
- Seiche or Internal Wave
- Langmuir Circulations



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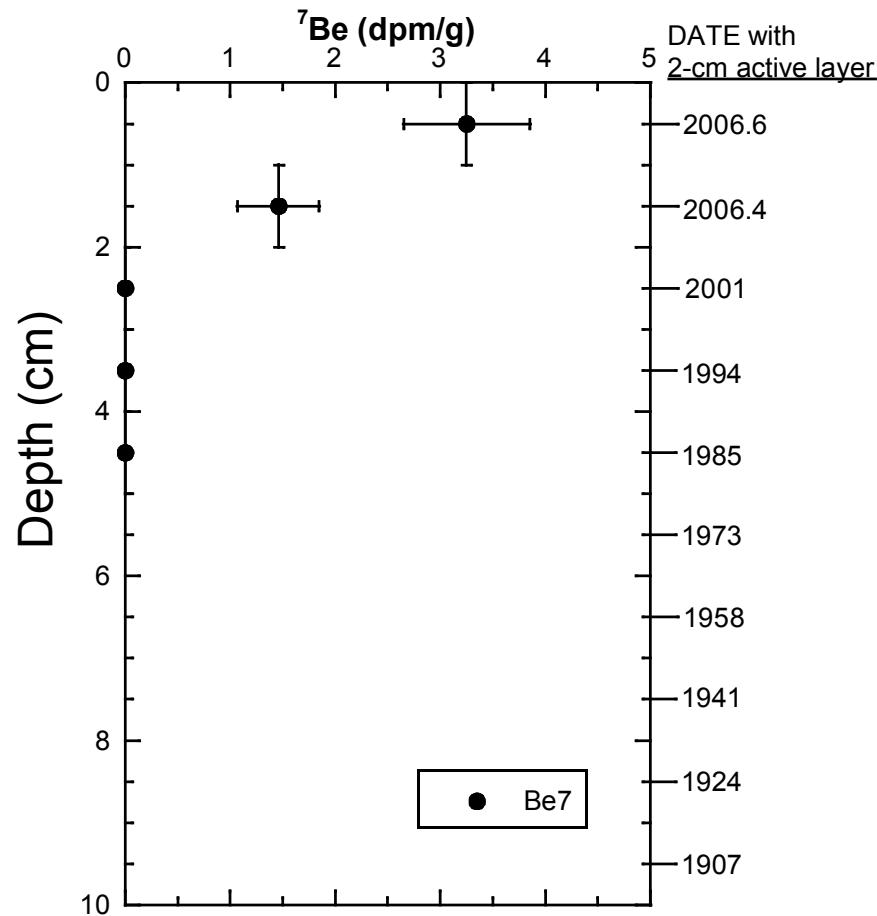




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Re-suspension evidence



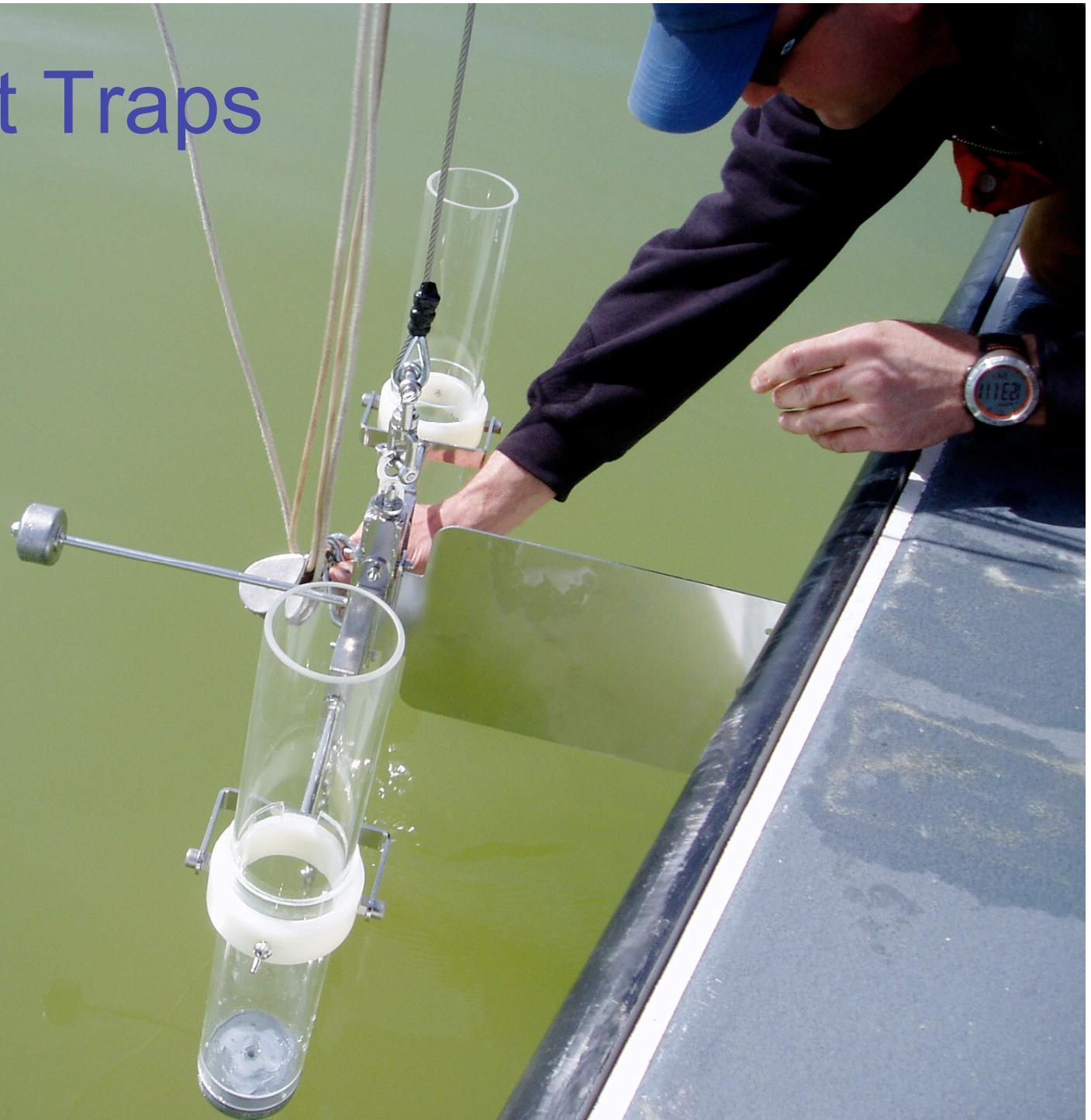
3510 Box Core



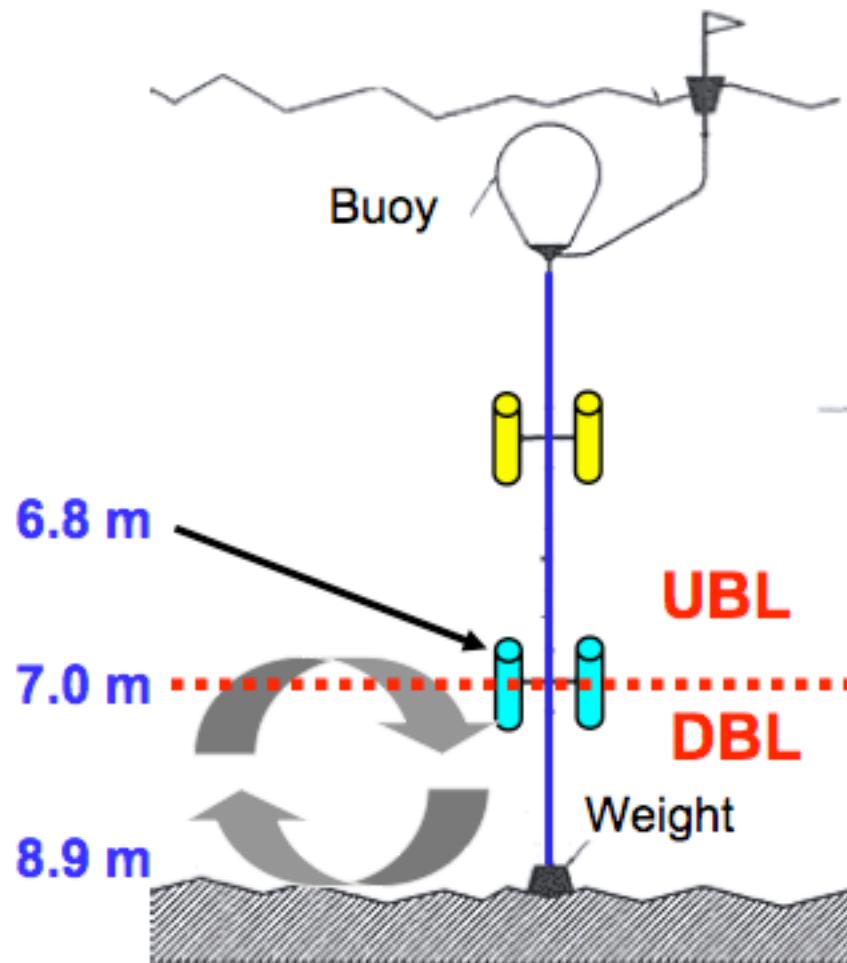
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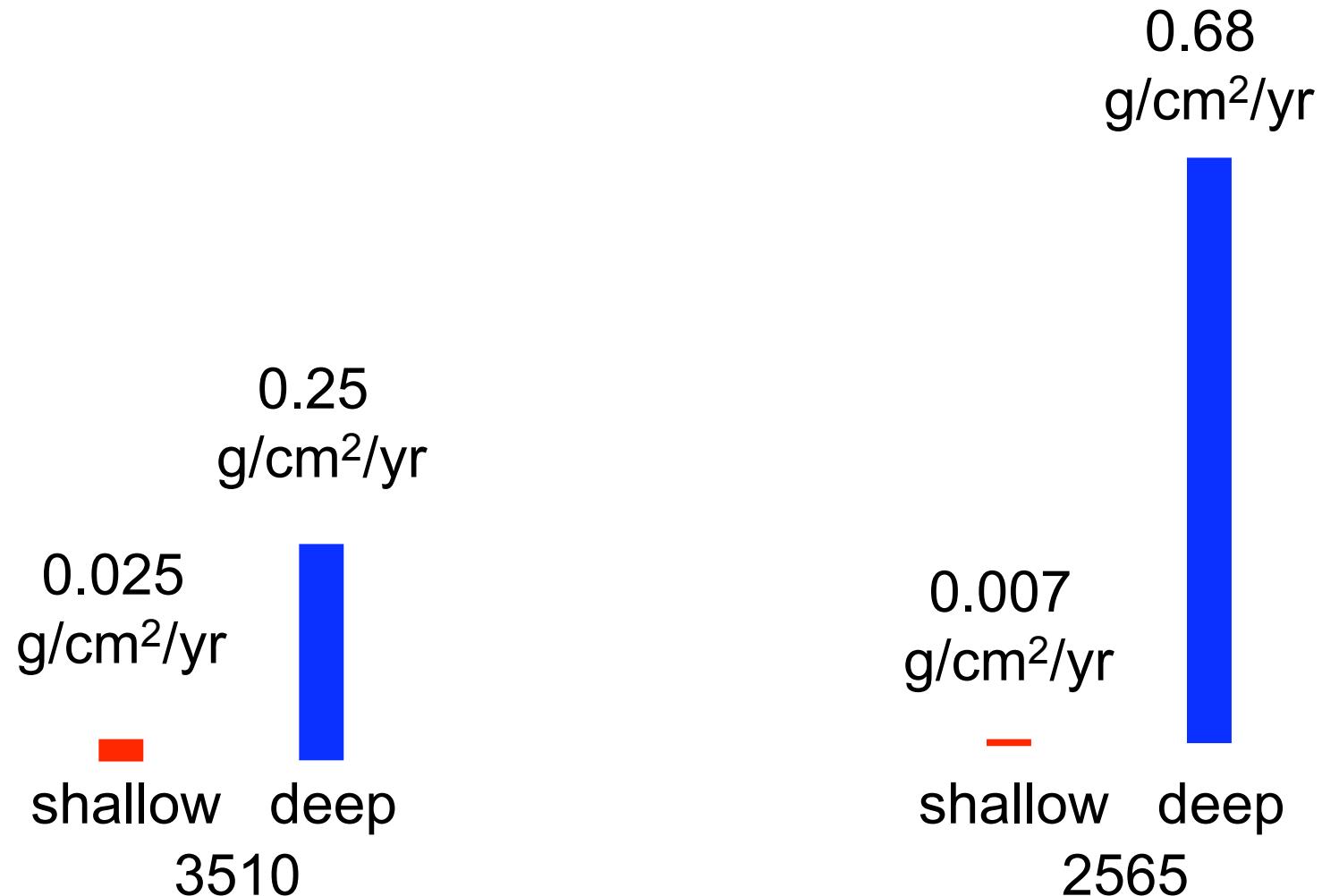
Sediment Traps



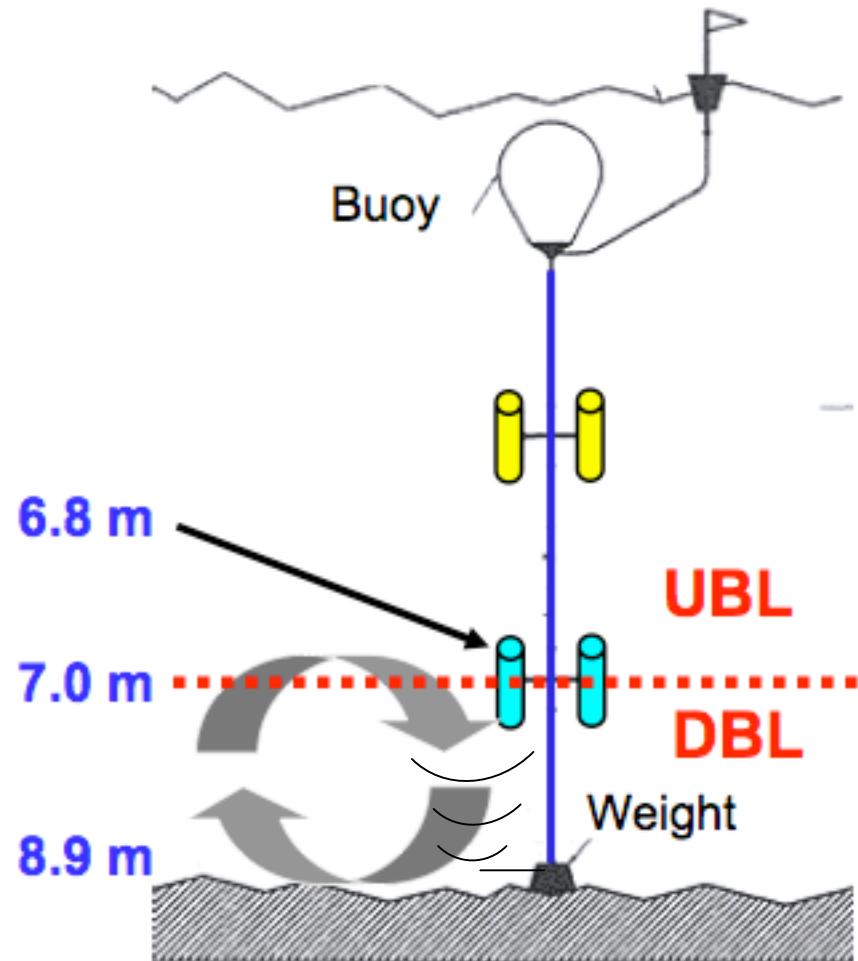
Sediment Traps

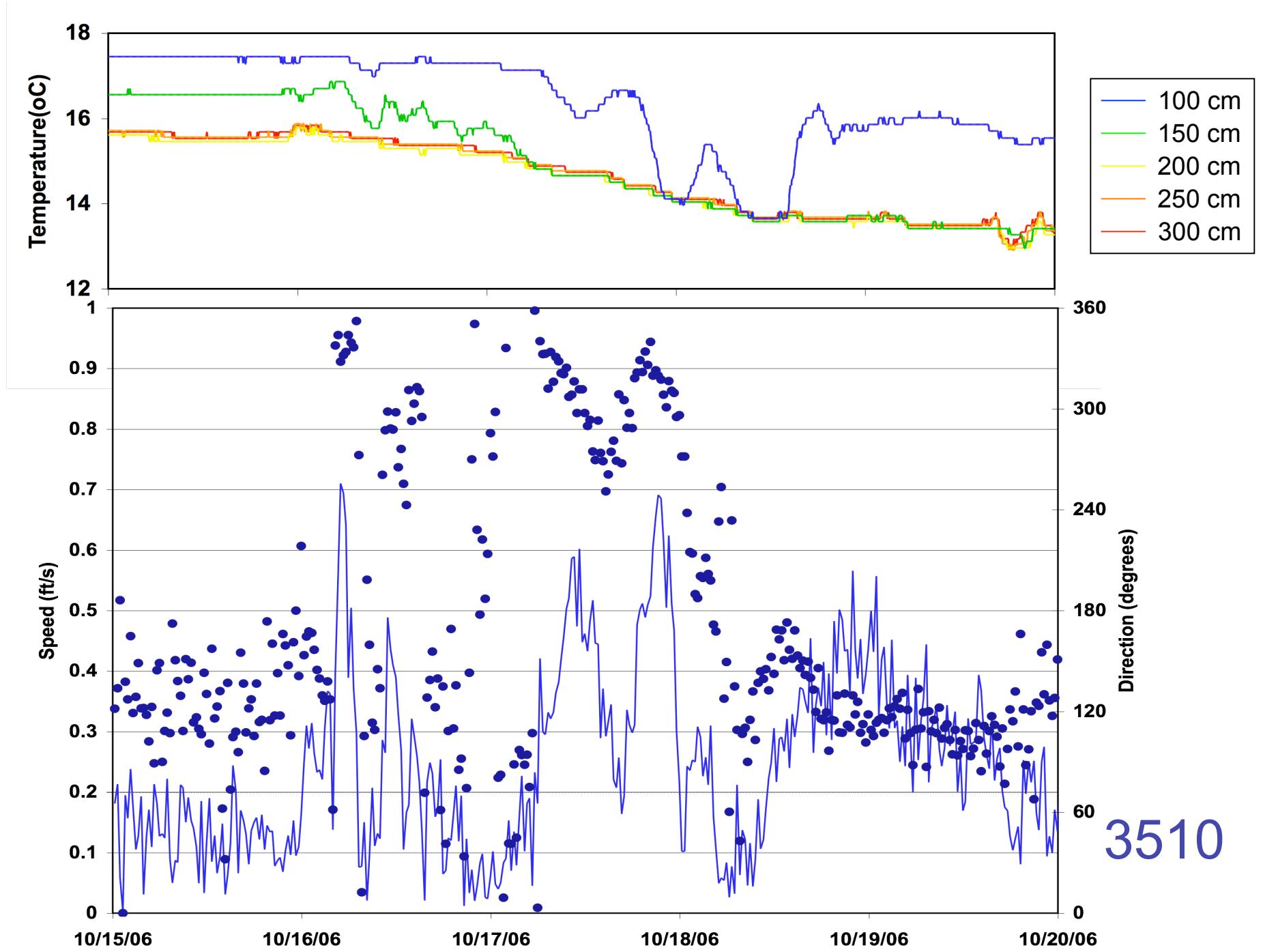


Sediment Accumulation in Traps



ADCP Correlation

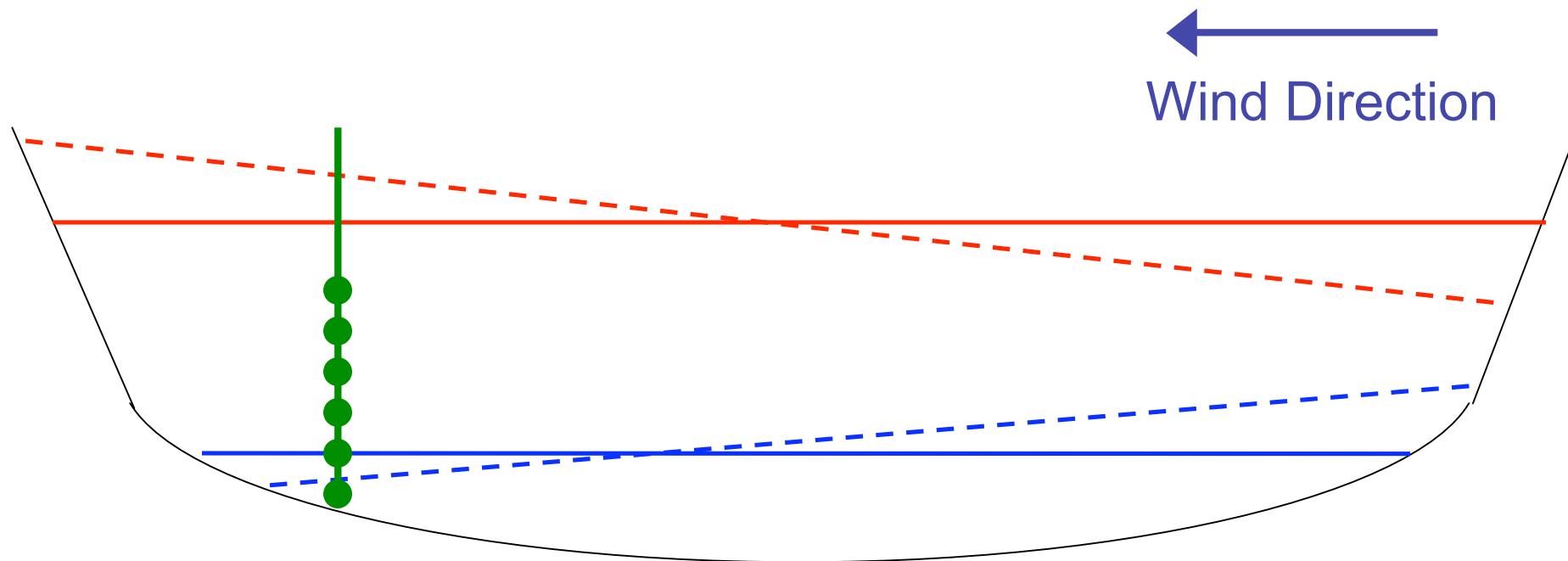




Seiche

Displacement of Water
Responding Oscillations

Set up by Wind and
Atmospheric Pressure



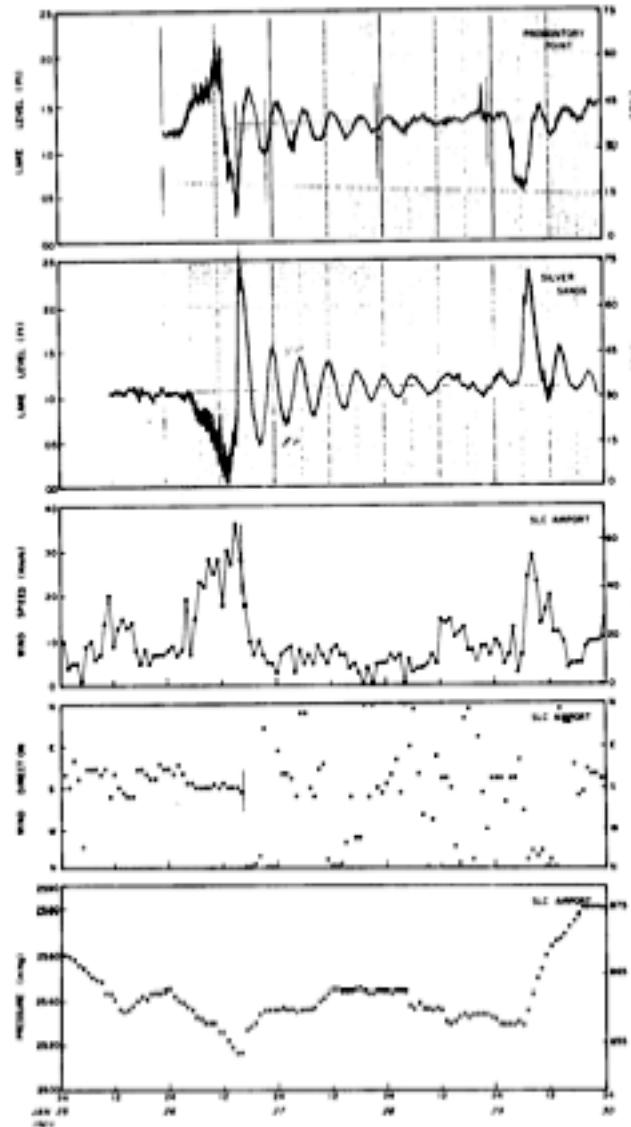
Need for more...

- Other equilibration events
- Conductivity loggers
- Lake surface elevation correlation
- Batch equilibration tests



Seiche Observations

Promontory Point



Silver Sands

Linn 1977